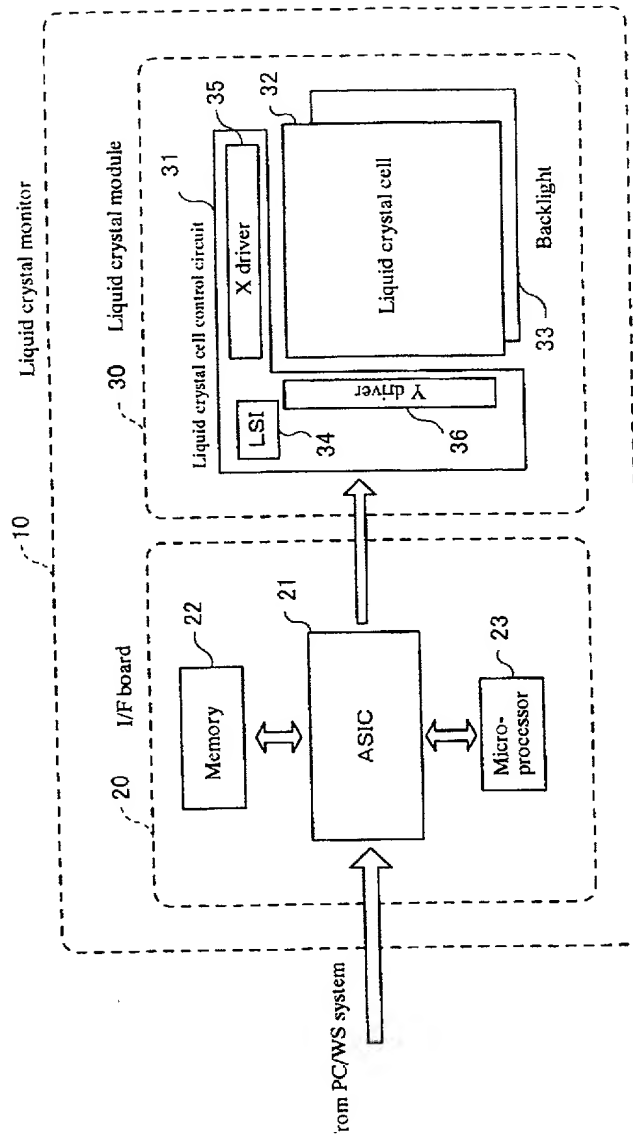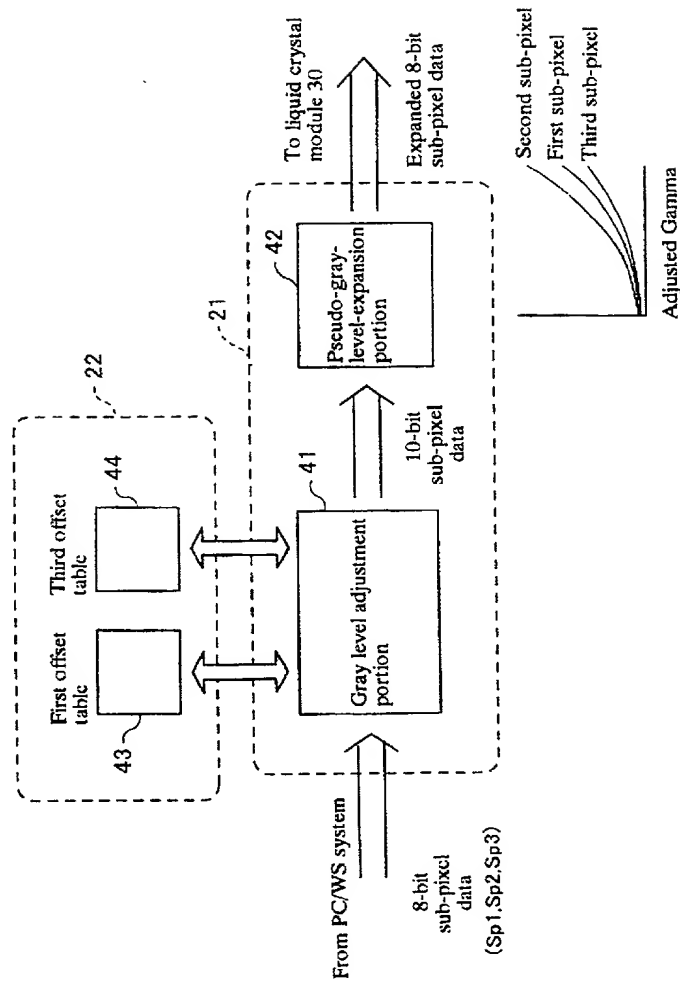[Figure 1]                                                     (1/7)

[Figure 2]                                              (2/7)

[Figure 3]

35  X driver

1 pixel

32  Liquid crystal cell

3 sub-pixels

4 sub-pixels

X driver 35

Sub-pixel

Sub-pixel

Sub-pixel

X driver 35

Sub-pixel

Sub-pixel

Sub-pixel

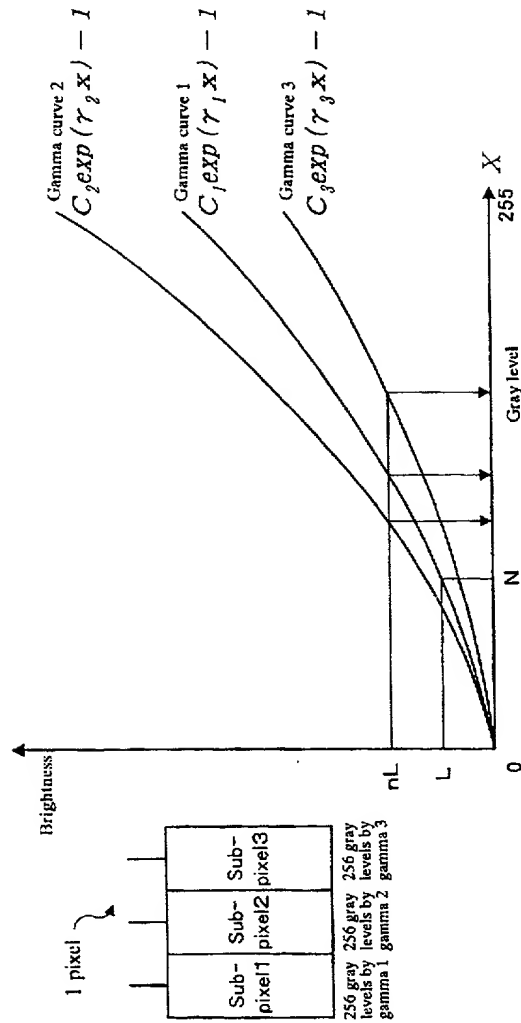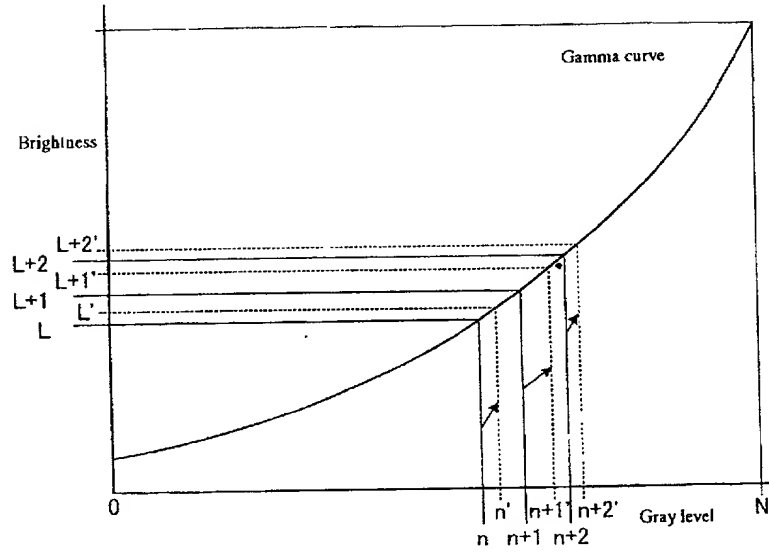Sub-pixel

Y driver 36

[Figure 4]                                                        (4/7)



Gamma curve 2
$$C_2 exp(\gamma_2 x) - 1$$

Gamma curve 1
$$C_1 exp(\gamma_1 x) - 1$$

Gamma curve 3
$$C_3 exp(\gamma_3 x) - 1$$

1 pixel

| Sub-pixel1 | Sub-pixel2 | Sub-pixel3 |

256 gray levels by gamma 1  256 gray levels by gamma 2  256 gray levels by gamma 3

Brightness

nL

L

0

Gray level      N      255      X

$$n(C_1 exp(\gamma_1 N) - 1) = C_k exp(\gamma_k x) - 1 \quad \cdots\cdots ①$$

$$x = \frac{1}{\gamma_k} ln\left(\frac{n C_1 exp(\gamma_1 N) - (n-1)}{C_k}\right) \quad \cdots\cdots ②$$
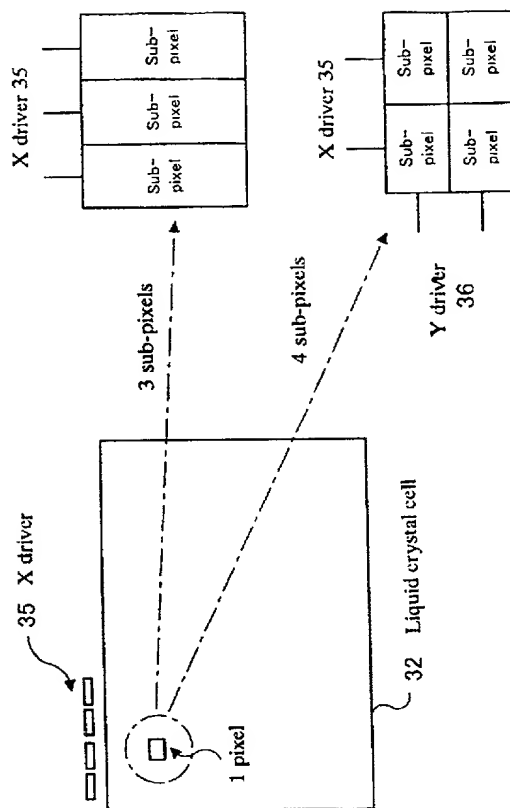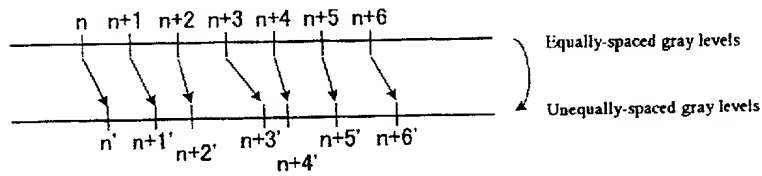
[Figure 5]

(a) Adjustment of gamma by converting gray level spacing



(b) Conversion of gray level spacing

[Figure 6]                                             (6/7)

44 (Third offset table)

| Gray levels | Offset |
|---|---|
| 255 | −4.×× |
| 223 | −4.×× |
| 191 | −5.×× |
| 159 | −3.×× |
| 127 | −3.×× |
| ... | ... |
| ... | ... |
| 32 | −1.×× |
| 0 | 0 |

43 (First offset table)

| Gray levels | Offset |
|---|---|
| 255 | −2.×× |
| 223 | −2.×× |
| 191 | −3.×× |
| 159 | −2.×× |
| 127 | −2.×× |
| ... | ... |
| ... | ... |
| 32 | −1.×× |
| 0 | 0 |

[Figure 7]